# County of Los Angeles Comments

# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
www.ladpw.org

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460


IN REPLY PLEASE
REFER TO FILE: WM-9

August 26, 2004

Ms. Jenny Newman
California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street, Suite 200
Los Angeles, CA 90013

Dear Ms. Newman:

**LOS ANGELES RIVER AND TRIBUTARIES METALS TOTAL MAXIMUM DAILY LOAD**

The Department of Public Works appreciates the opportunity to comment on the proposed Los Angeles River and Tributaries Metals Total Maximum Daily Load. We would also like to thank the Regional Board staff for holding a public workshop on August 19, 2004. We look forward to continuing our working relationship. Enclosed are our comments addressing the proposed subject Total Maximum Daily Load.

If you have any questions, please contact Ms. Carrie Inciong at (626) 458-4346, Monday through Thursday, 7:30 a.m. to 6 p.m.

Very truly yours,

DONALD L. WOLFE
Interim Director of Public Works

Teri Grant for

ROD H. KUBOMOTO
Assistant Deputy Director
Watershed Management Division

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Enc.

cc: Dave Burhenn, Esq.
bc: Watershed Management (Inciong, Wu, Bapna)

**COMMENTS OF THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS ON PROPOSED AMENDMENTS TO THE LOS ANGELES BASIN PLAN TO INCORPORATE A TMDL FOR METALS IN THE LOS ANGELES RIVER WATERSHED**

## General Comment

As an initial general comment, the Department of Public Works ("Public Works"), as staff of the County and of the Los Angeles County Flood Control District, wishes to note that insufficient time has been afforded the Department and other commenters to review and comment upon the proposed Basin Plan amendment. The proposed amendment and attached Staff Report were provided to the regulated community only after July 12, 2004, barely within the 45-day minimum period for review pursuant to the Government Code. In addition, the Regional Board also released for comment on the same day a similarly complex proposed Basin Plan amendment to incorporate a TMDL for metals in the Ballona Creek watershed.

The Department, as well as other stakeholders, formally requested that additional time be provided for our review and comment of these proposed Basin Plan amendments. This request apparently was denied by the Regional Board.

As we know staff is well aware, all TMDLs, including this one, must be based on sound science. The attached Flow Science report describes with more particularity some of the deficiencies of the proposed Basin Plan amendment. Moreover, we note that Health & Safety Code § 57004(b) requires the Regional Board to "conduct a scientific peer review of the scientific basis for any rule proposed for adoption by any board, department or office within [the California Environmental Protection Agency]." The proposed Basin Plan amendment falls within the definition of "rule," and, therefore, should be subjected to the requisite review prior to its adoption by the Regional Board.

At an August 19 workshop on the TMDL, Regional Board staff members, including the interim Executive Officer, indicated they would need to respond to a number of questions and issue raised by commenters. We anticipate that in addition to these comments, there will be a significant number of additional comments that will require Regional Board consideration. Unfortunately, by scheduling the consideration of the proposed Basin Plan amendment for the September 2 meeting of the Regional Board, staff will have almost no time to consider and respond in a useful way to the comments. In addition, if the comments cause staff to propose significant changes to the proposed Basin Plan amendment, it will be necessary for the Regional Board to re-notice the hearing for its consideration, so as not to be in violation of the notice requirements of state law.

**Flow Science Incorporated**
723 E. Green St., Pasadena, CA 91101
**(626) 304-1134 • FAX (626) 304-9427**

# TECHNICAL REVIEW OF PROPOSED METALS TMDLs FOR THE LOS ANGELES RIVER AND BALLONA CREEK WATERSHEDS

Prepared
for

**County of Los Angeles**
**Department of Public Works**
**900 South Fremont Avenue**
**Alhambra, CA 91803-1331**

Reviewed By

Susan C. Paulsen, Ph.D., P.E.
Vice President, Senior Scientist

E. John List, Ph.D., P.E.
Principal Consultant

Prepared by

Aaron Mead, P.E.
Project Engineer

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## INTRODUCTION

This report summarizes Flow Science's technical review of proposed metals TMDLs for the Los Angeles River and Ballona Creek watersheds. The Los Angeles Regional Water Quality Control Board (Regional Board) has scheduled a hearing for September 2, 2004, to formally consider the adoption of these TMDLs. The Regional Board has solicited public comment in the period leading up to that hearing. The purpose of this report is to provide the Los Angeles County Department of Public Works (County) with a scientific evaluation of the documents that form the basis of the TMDLs, to facilitate the County's comments on the TMDLs.

## STORMWATER AND THE CALIFORNIA TOXICS RULE (CTR)

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (commonly known as the State Implementation Policy, or SIP) became effective on May 22, 2000. The stated goal of the SIP is to "establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency." The SIP established implementation provisions for priority pollutant criteria promulgated through the National Toxics Rule (NTR), the California Toxics Rule (CTR), and as established by Regional Water Quality Control Boards in their Water Quality Control Plans (Basin Plans). As noted in footnote 1 of the SIP, "This policy does not apply to regulation of storm water discharges."

The SIP provides guidelines for determining whether a discharge has a "reasonable potential" to cause or contribute to an excursion above an applicable priority pollutant concentration or objective. The SIP also provides a process for determining the appropriate effluent limitation for that pollutant. These calculation procedures are not intended to apply to storm water discharges, and indeed, are inappropriate for such discharges due to the intermittent, highly variable, and complex nature of storm events.

Unlike continuous point source discharges (e.g., POTWs), storm water discharges are variable in intensity and duration. The concentration of pollutants discharged at any one time is dependent on many variables. Obviously, the largest concentration of pollutants would be generally expected to discharge earlier in the storm event, and to taper off as discharges continued. Therefore, to calculate the potential for a storm water discharge to cause or contribute to an excursion above a water quality objective, the discharge would need to be sampled for water quality until most of the pollutants have been discharged. Multiple samples would be required over many hours. To determine the pollutant mass loading, the storm water discharged flow would have to be measured at the time each water quality sample is collected. Quantitative monitoring, as described above, would normally require the installation of automatic sampling devices and flow meters at each discharge location. In most cases, this kind of intensive, costly monitoring data is unavailable for storm water discharges. As a result, sufficient data do not exist to make a defensible analysis of reasonable potential for storm water discharges.

Further, a review of EPA's administrative record supporting the adoption of the CTR criteria indicates that these criteria were not intended to apply to storm water discharges, and were not intended to be applied without consideration of dilution or as never-to-be-exceeded values. EPA clearly stated in the documentation supporting the development and use of CTR criteria that:

- CTR criteria are not intended to be applied to storm water discharges as numeric water quality based effluent limits "which would be equivalent to criteria values and applied as effluent limits never to be exceeded, or calculated in the same manner that effluent limits are calculated for other point sources, such as POTWs."[1]

- "EPA believes that the final rule will not have a direct effect on sources not permitted under the NPDES program (e.g., nonpoint sources) or NPDES sources not typically subject to numeric water quality-based effluent limits (e.g., wet weather discharges)."[2]

- "EPA believes that the final CTR will not significantly affect the current storm water program being implemented by the State, which includes the requirement to develop best management practices to control pollutants in storm water discharges."[3]

- Water quality-based permitting and compliance should consider dilution.[4]

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[1] See *California Toxics Rule Response to Comments Report, Volume II*, December 1999 (prepared by USEPA Office of Science and Technology and USEPA Region 9). Response to Comment CTR-001-007, p. 1248: "The commenter appears to assume that the storm water discharge would be subject to numeric water quality based effluent limits which would be equivalent to the criteria values and applied as effluent limits never to be exceeded, or calculated in the same manner that effluent limits are calculated for other point sources, such as POTWs. The commenter then appears to assume that such WQBELs would then require the construction of very costly end-of-pipe controls. EPA contends that neither scenario is valid with regards to developing WQBELs for storm water discharges or establishing compliance with WQBELs. EPA acknowledges that wet weather discharges are technically difficult to model and evaluate financially, because they are intermittent and highly variable. Wet weather discharges also occur under more diverse hydrologic or climatic conditions than continuous discharges from industrial or municipal facilities, which are evaluated under critical low flow or drought conditions. If the EPA had enough data to completely characterize all the conditions and do the necessary modelling, WQBELs would be developed using dynamic models to account for the intermittent loadings and exposures from the storm water discharges. In the absence of this data, EPA will continue to advocate the use of BMPs, as discussed in the CTR preamble… EPA will continue to work with the State to implement storm water permits that comply with water quality standards with an emphasis on pollution prevention and best management practices rather than costly end-of-pipe controls."

See also Response to Comment CTR-040-014b, at p. 1284: "EPA believes the applicability of water quality standards to storm water discharges is outside the scope of the rule."

[2] Ibid., Response to Comment CTR-034-014e, at p. 1268.

[3] Ibid., Response to Comment CTR-035-044c, at p. 1271.

[4] Ibid., Response to Comment CTR-040-004, at p. 1280: "The primary scenario described in the report [providing comments on proposed CTR objectives] (i.e., comparing projected worse case [sic] discharge concentrations directly to

- Storage and treatment of storm water were not anticipated to be necessary to comply with CTR criteria.[5]

- There is insufficient information to develop effluent limits for storm water discharges.[6]

Further, both the preamble to the CTR and the documentation accompanying the CTR demonstrate EPA's intent to allow periodic exceedances of CTR criteria. For example, EPA selected a return frequency of once in three years, establishing that periodic exceedances of CTR criteria are acceptable,[7] and that the concept of periodic exceedances should extend to storm flows.[8] The National Research Council, in a report to Congress in July 2001, also supported these concepts, recommending that water quality criteria be developed to include magnitude, frequency, and duration components. The NRC further recommended that the frequency component be defined in terms of a number of allowed excursions in a specified time period and not as never-to-be-exceeded limits.[9]

In summary, there is little or no support for applying CTR criteria directly to storm water discharges in the context of a TMDL. Application of those criteria as never-to-be-exceeded end-of-pipe limitations, especially without consideration of receiving water dilution, was clearly never contemplated. However, this is just what both the Los Angeles River and Ballona Creek and Estuary Metals TMDLs do. The Los Angeles River TMDL applies CTR concentration-based limits to all NPDES permit-holders except the POTW dischargers (see MODELING ASSESSMENT

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chronic aquatic life and human health criteria with no allowance for dilution) is highly conservative in comparison with the water quality-based permitting and compliance procedures that would be implemented by EPA."

[5] Ibid., Response to Comment CTRH-001-001b, at p. 1309: "EPA disagrees with the cost estimates provided by the commenter as EPA does not believe that storage and treatment of stormwater would be required to ensure compliance with the CTR."

[6] Ibid., Response to Comment CTR-069-002a: "…evaluating agricultural nonpoint sources discharges and storm water discharges and their effects on the environment is highly site-specific and data intensive. Until this information is available, it is premature to project that the sources would incur any costs beyond those for which they are already responsible under the current regulations of the Clean Water Act."

[7] Ibid., Response to Comment CTR-020-016: "EPA's aquatic life criteria are based on three interrelated components which include magnitude, duration, and frequency. EPA's longstanding position is that the criteria may not be exceeded more than once every three years on average."

[8] Ibid., Response to Comment CTR-096-001b: "EPA agrees that its numerical exceedance frequency and design flow specifications are based on dry-weather conditions. Nevertheless, the rule provides for alternative development of averaging periods and exceedance frequencies, thereby allowing the extension of their applicability to wet-weather conditions."

[9] National Research Council, *Assessing the TMDL Approach to Water Quality Management*, National Academy Press, Washington, D.C., 2001, at p. 50.

section). Moreover, the mass-based load allocations prescribed for the Wardlow gaging station (Los Angeles River Staff Report Figures 11a-d) are based on CTR criteria and, as the x-axes of these plots demonstrate, explicitly apply to storm flows. Similar points could be made regarding the Ballona Creek and Estuary Metals TMDL. Clearly, these TMDLs apply CTR criteria to stormwater, contrary to CTR guidance.

## INAPPROPRIATE IMPAIRMENT DESIGNATIONS

### TMDLs Developed for Unimpaired Reaches

The proposed TMDLs for both the Los Angeles River and Ballona Creek watersheds specify metals waste load allocations for reaches that are not on the 303(d) list. For example, Table 31 (p. 57) of the TMDL specifies cadmium, copper, lead, and zinc waste load allocations for reaches 3, 5, and 6 of the Los Angeles River. However, as Table 1 (p. 7) of the TMDL makes clear, none of these reaches are listed as impaired. Thus, the Regional Board, if it adopts the proposed TMDL without change, would overreach its authority in establishing waste load allocations.[10] The TMDL specifies allocations for other constituents and other reaches that are not listed. These are summarized in Tables 1 and 2 for the Los Angeles River and Ballona Creek respectively.

**Table 1 – L.A. River reaches and constituents for which the metals TMDL <u>improperly</u> develops waste load allocations.**

| River Reach | Copper | Cadmium | Lead | Zinc |
|---|---|---|---|---|
| Los Angeles River Reach 3 | X | X | X | X |
| Los Angeles River Reach 4 (Sepulveda dam to Riverside St.) | X | X | | X |
| Los Angeles River Reach 5 | X | X | X | X |
| Los Angeles River Reach 6 | X | X | X | X |
| Tujunga Wash (Hansen Dam to Los Angeles River) | | X | X | X |
| Burbank Western Channel | X | | X | X |
| Los Angeles River Reach 2 (Figueroa St. to Carson St.) | X | X | | X |
| Rio Hondo (Santa Ana Fwy. To Los Angeles River) | | X | | |
| Compton Creek | | X | | X |
| Bell Creek | X | X | X | X |

[10] We note that a recent court decision supports this conclusion. See Statement of Decision and Judgment in the Cities of Arcadia et al. v. State Water Resources Control Board, Case No. GIC 803631, at p. 9: "Petitioners correctly argue only impaired water bodies listed on the state's 303(d) list are subject to the TMDL process…The Court is unpersuaded by Respondent's contention that the Estuary should have been listed on the 303(d) list, and finds Respondents abused their discretion when they included the Los Angeles Estuary in the trash TMDL."

| | | | | |
|---|---|---|---|---|
| Verdugo Wash | X | X | X | X |
| Arroyo Seco | X | X | X | X |

Source: Tables 1 and 31, Los Angeles River Watershed Metals TMDL (RWQCB, 2004).

**Table 2 – Ballona Creek watershed water bodies and constituents for which the metals TMDL <u>improperly</u> develops waste load allocations.**

| **Dry Weather** | | | | | | |
|---|---|---|---|---|---|---|
| **Water Body** | **Cadmium** | **Copper** | **Lead** | **Selenium** | **Silver** | **Zinc** |
| Ballona Creek | X | | | | X | |
| Sepulveda Canyon Channel | X | X | | X | X | X |
| Centinela Channel | X | X | X | X | X | X |
| Ballona Creek Estuary | X | | | X | X | |
| **Wet Weather** | | | | | | |
| **Water Body** | **Cadmium** | **Copper** | **Lead** | **Selenium** | **Silver** | **Zinc** |
| Ballona Creek | | | | | X | |
| Sepulveda Canyon Channel | X | X | | X | X | X |
| Centinela Channel | X | X | X | X | X | X |

Source: Tables 1-1, 2-10, 6-1, and Figures C-1 through C-18, Ballona Creek and Estuary Metals TMDL (RWQCB, 2004).

## Impairment Unsupported in Some Reaches

In some cases, the proposed TMDLs for the Los Angeles River and Ballona Creek watersheds develop allocations for reaches listed as impaired even though available data are inadequate to support such a listing. For example, in the Los Angeles River watershed the Burbank Western Channel is on the 303(d) list for cadmium (Los Angeles River TMDL Staff Report, p. 7). However, the data cited in support this listing indicate that of 96 samples taken in this reach, only one sample exceeded the CTR chronic dissolved criterion for cadmium (Ibid., p. 21). Since the City of Burbank samples the Burbank Western Channel only quarterly, this means that only one excursion from the CTR criterion was evident in 24 years of sampling. As the CTR rule itself notes, a metals concentration is considered to violate the chronic or acute metals criterion only if concentrations exceed the criterion more than once every three years on average. By this standard, the single exceedance in the sample collected in the Burbank Western Channel by the City of Burbank does not violate CTR regulations. The original basis for placing this reach on the 303(d) list is unclear, but available data clearly indicate that this reach is not impaired for cadmium.

The Staff Report's citation of data from the City of Los Angeles' Watershed Monitoring Program (WMP) (p. 23) is irrelevant since hardness was not sampled as part of the WMP, thereby precluding comparison with hardness-based CTR criteria. That the data are irrelevant is seems further supported by the fact that the WMP sampling returned a maximum cadmium concentration of 1.45 μg/L, and the lowest CTR chronic criterion calculated based on City of Burbank data was 3.4 μg/L. Even if hardness had been collected as part of the WMP, it appears unlikely that WMP cadmium measurements would have exceeded the CTR chronic criterion.

Moreover, the Staff Report notes that the data used to assess impairment in the Burbank Western Channel were expressed in terms of total concentrations, while the CTR criterion used for comparison is expressed in terms of dissolved concentration (p. 21). Since total metals concentrations are higher than dissolved metals concentrations, this suggests that the single measurement used to list the Burbank Western Channel as impaired for cadmium may not even truly exceed the CTR chronic criterion.

Furthermore, the CTR a chronic criterion is understood as a 4-day average concentration, not an instantaneous concentration. Therefore, it is inappropriate to use grab sample data to establish an exceedance of the CTR chronic criterion. While grab samples are proper for establishing an exceedance of the CTR *acute* criterion, there were in fact no exceedances of the acute criterion in any of the Burbank Western channel samples (Staff Report, p. 22).

Similar inappropriate impairment listings are evident in the Ballona Creek and Estuary Metals TMDL. For example, Ballona Creek is listed as impaired for cadmium under wet weather conditions (Ballona Staff Report, Table 2-10) when only one chronic exceedance and one acute exceedance out of 55 samples over seven years supports this listing (Ballona Staff Report, Table 2-9). As noted above, the CTR states that a metals concentration is considered to violate the chronic or acute metals criterion only if concentrations exceed the criterion more than once every three years on average. Similarly, Ballona Creek is listed as impaired for silver under dry weather conditions (Ballona Staff Report, Table 2-10) when only one acute exceedance out of 48 samples over two years supports this listing. This listing is not merited according to CTR.

Ballona Creek is also improperly listed as impaired for selenium (Ballona Staff Report, Table 1-1 and 2-10). This listing is supported by only two chronic exceedances out of 55 samples over seven years. While the TMDL rightly acknowledges that the wet-weather exceedance rate for selenium is complicated by the fact that detection limits for water quality samples were greater than the water quality criteria themselves (Ballona Staff Report, p. 14), this added complication and the uncertainty that it introduces do not warrant listing Ballona Creek for selenium. Moreover, the main reason that the Ballona Staff Report cites for this wet weather listing of selenium—namely, continuity with the 2002 303(d) list—provides no better justification for a continued listing. The fact remains that the 2002 303(d) listing was erroneously made based only on two explicit chronic exceedances over a seven year sampling period. By CTR standards, this is simply not enough evidence for listing.

Moreover, it is worth noting that Sepulveda Canyon Channel is inappropriately listed in the Ballona TMDL as impaired for lead under dry weather conditions (see Ballona Staff Report Table 1-1 and p. 30; however, note that Table 2-10 does not list this water body as impaired for lead). This listing is inappropriate because the only water quality data cited in the Ballona Staff Report for Sepulveda Canyon Channel indicates zero exceedances of CTR standards during dry weather (Table 2-7). Nowhere in the report is this listing for lead supported by data. Finally, it is also worth noting that the most recent dry weather data collected by SCCWRP in 2003 suggests that neither Ballona Creek nor Sepulveda Canyon Channel demonstrated exceedances of CTR criteria for any metals (Tables 2-

6 and 2-7).

Consistent with the NRC's recommendations to Congress,[11] 303(d) listings should be evaluated for appropriateness and consistency prior to TMDL development.

## AERIAL DEPOSITION OF METALS

Aerial deposition from basin-wide sources likely constitutes a significant portion of the trace metals found in storm water runoff in the Los Angeles River watershed. A study completed by Stolzenbach et al. (2001) on trace metals loading to Santa Monica Bay from aerial deposition concluded that "the annual rate of atmospheric transport and deposition of trace metals to Santa Monica Bay, defined as the sum of direct and indirect (on the watershed) deposition, is significant relative to other inputs of metals to the Bay" (p. v). Given the proximity of the Santa Monica Bay watershed, aerial deposition is most certainly a significant source of trace metals loading in runoff from the Los Angeles River and Ballona Creek watersheds. It is inappropriate to require local storm water dischargers to assume responsibility for metals in storm water that originate from sources beyond their control.

A recent court case also supports this conclusion.[12] In this case, the court held that a stringent CTR-based water quality-based effluent limit (WQBEL) incorporated into a permit for a refinery located on the shore of Suisun Bay was "not appropriate" for the Refinery.[13] This permit limit was replaced with a less stringent performance-based limitation for two reasons: first, the determination that Suisun Bay was impaired required a region-wide cross-media assessment of the dioxin problem, which would result in a more balanced and more effective limitation for the Refinery.[14] Second, an investigation demonstrated that the Refinery was not the primary source of dioxins in Suisun Bay; rather, the dioxins entered the water by atmospheric deposition from sources such as motor vehicle exhaust and wood burning, sources beyond the discharger's control.[15]

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[11]National Research Council, *Assessing the TMDL Approach to Water Quality Management* (Washington, D.C.: National Academy Press, 2001).

[12] *Communities for a Better Env't v. State Water Res. Control Bd.*, 109 Cal. App. 4th 1089 (1st Dist. 2003).

[13] *Id.* at 1101.

[14] *Id.* (quotation marks omitted).

[15] *Id.* at 1101 (emphasis added): [T]he Refinery has reduced the dioxins…in its discharge by 85 percent since CDO adoption. Despite this, the Refinery cannot comply with the numeric WQBEL. The root cause of the violations are not within the Refinery's control, and the next step of treatment will be overly burdensome and not cost effective relative to the benefits. The Refinery provided data in 1997 that supports its contention that the violations are caused by ambient air deposition of dioxins….Much of this is beyond the Refinery's control….The Refinery has estimated that $ 10 million may be necessary to implement the next step of reduction. The Refinery's mass contribution is minor compared to other storm water inputs into the Bay.

Thus, there is valuable precedent for Regional Boards to consider the fact that storm water dischargers do not have control over many sources of metals in storm water, including ambient air deposition. As a result, the root cause of certain CTR compliance violations may not be within the dischargers' control.

## METALS AND NATURAL AREAS

The TMDL makes the assumption that loads from non-urban areas in the watershed—such as Angeles National Forest and open areas of the Santa Monica Mountains—would be insignificant under both dry weather and wet weather conditions (Staff Report, p. 58, 61). However, no data are used to support this assumption, and data from other sources suggest that this assumption may be invalid.

The Stolzenbach et al. (2001) study on trace metals loading to Santa Monica Bay from aerial deposition concluded that peak aerial deposition rates for metals in the Los Angeles Basin occurred just south of the San Gabriel and San Bernardino mountain ranges in Los Angeles and San Bernardino counties. If peak metals deposition rates occur at the foot of the San Gabriel Mountains, areas just to the north—in the mountains themselves—are likely also subject to relatively high rates of aerial metals deposition. Significant portions of the San Gabriel Mountains are part of the Los Angeles River watershed (e.g., the upper portion of the Arroyo Seco watershed). Thus, if aerial deposition on the Santa Monica Bay watershed is a significant source of trace metals in runoff to the Santa Monica Bay—as Stolzenbach et al. concluded—then aerial deposition in the Los Angeles River watershed, where metals deposition rates are higher than in the Santa Monica Bay watershed, including its natural areas, must also be a significant source of trace metals in storm water runoff. The same is true of the Ballona Creek watershed, though natural and open space areas constitute a far smaller proportion of the Ballona Creek watershed than they do in the Los Angeles River watershed.

In addition, native soils in natural areas of the Los Angeles River Watershed contain significant quantities of copper, lead, and zinc. Given that large quantities of these soils can be mobilized in large storm events, the natural areas may contribute a significant quantity of metals to storm water simply through natural sediment transport processes. A basic analysis of the metals concentrations that would result from the transport of soils from natural areas in the watershed under typical storm flow conditions confirms this. This analysis was based on a study of trace element concentrations in typical soils in southern California (Bradford et al., 1996) and is summarized in Table 2. Results suggest that metals from soils originating in natural areas of the watershed could account for between 3.9% and 14.8% of the CTR concentration-based waste load allocation for reach 1 of the Los Angeles River under typical storm flow conditions. This is not an insignificant proportion and should be accounted for in the TMDL waste load allocations.

**Table 3 – Contribution of Natural Soils to Metals Concentrations in the Los Angeles River Under Typical Storm Flow Conditions.**

| Metal Element | Range of Natural Soil Concentration (mg metal/ kg soil)[1] | Stormwater Concentration, Assuming TSS = 100 mg/L[2] (µg/L) | Concentration-based Waste Load Allocation (WLA) for Los Angeles River, Reach 1 (µg/L)[3] | Percent of WLA Accounted for by Natural Soil Sediments |
|---|---|---|---|---|
| Copper | 13.3 – 14.8 | 1.3 – 1.5 | 23 | 5.8 – 6.4 % |
| Lead | 13.2 – 14.2 | 1.3 – 1.4 | 9.6 | 13.8 – 14.8 % |
| Zinc | 92 – 170 | 9.2 – 17.0 | 233 | 3.9 – 7.3 % |

[1] Natural soil concentrations from Bradford et al., 1996, Table 2. Lower end of range is for "Cajon fs" soil (San Bernadino County); upper end of range is for "Coachella fs" soil (Riverside County). Although soils from L.A. County were unavailable in this study, the soils selected for this analysis are the closest available and are similar to those in to the Los Angeles River watershed.

[2] 100 mg/L is a represents a typical TSS concentration at the Wardlow gage during storm flow (see TMDL Appendix C, Figures C-9 and C-10).

[3] Waste load allocations from Table 32 of the TMDL Staff Report (p. 58).

Moreover, natural soils may contribute even higher metals loads under post-fire conditions. Although little research has been conducted on the effects of wild fires on runoff water quality in Southern California, one study that compared stream sediment and water geochemistry before and after fires in undeveloped drainages in Central Idaho suggests that stream sediments discharging from recently burned areas have higher than normal levels of copper, lead, zinc, and several other constituents (Eppinger et al., 2000). Assuming this phenomenon also occurs in Southern California, where wildfires are relatively frequent in natural areas, would be an even more significant source of metals in storm water after a wildland fire.

Finally, it is instructive to note that Monrovia Canyon Creek is listed as impaired for lead in the TMDL Staff Report (p. 7). The fact that the Monrovia Canyon Creek sub-watershed is dominated by natural and open land use suggests that natural areas may in fact make significant contributions to metals concentrations in storm water.

Thus, the assumption in the Staff Report that runoff from natural areas has insignificant metals concentrations, which is unsupported by any data, is likely false.

## APPLICATION TO CONSTRUCTION SITES

Through the application of the waste load allocations, the proposed TMDLs for both the Los Angeles River and Ballona Creek watersheds appear to require numeric effluent limits for storm water runoff from construction sites, at least for construction sites with new and reissued permits. There is little evidence that construction sites have reasonable potential to contribute to exceedances of water quality standards, and applying the WLAs to construction storm water runoff is contrary to the Clean Water Act and administrative and judicial precedent.

The application of WLAs to construction storm water runoff is inconsistent with previous determinations by the State Water Resources Control Board that it is infeasible to impose numeric

effluent limits on construction runoff.[16] The Staff Reports for the proposed TMDLs offer no evidence that it is now feasible or possible to impose numeric effluent limitations on construction storm water runoff. Needless to say, numeric effluent limitations are not required when they are infeasible, even when the receiving water body is impaired and a TMDL has been established.[17]

Moreover, there is no evidence construction storm water runoff has a "reasonable potential" to cause an excursion of water quality standards for metals in the Los Angeles River or Ballona Creek. In fact, the only evidence we are aware of suggests that construction storm water runoff *does not* contain problematic levels of metals.[18] The Staff Report provides no basis for assuming a reasonable potential for construction site pollutants to cause or contribute to an excursion of a water quality standard for metals, and NPDES permits (including permits for storm water runoff) for sources that do not have a reasonable potential to cause or contribute to an excursion of a State water quality standard should not be subject to numeric effluent limits.[19]

Because it would be infeasible to apply WLAs to construction storm water runoff and because there is no evidence that construction storm water runoff has a reasonable potential to cause an excursion of the metals water quality standards in the Los Angeles River or Ballona Creek, the numeric WLAs should not apply to permits for construction storm water runoff.

## COMPLIANCE MEASURES

### BMPs

In a 19 August 2004 workshop, Regional Board and USEPA staff stated that to achieve compliance with the Los Angeles River and Ballona Creek metals TMDLs, storm water dischargers will not be required to design, install and operate high-cost treatment measures such as reverse osmosis (RO) or

[16] *See, e.g.*, Ruling on Submitted Matter, San Francisco BayKeeper v. California State Water Resources Control Board, p. 6 (Jul. 27, 2000) ("the Board reasonably determined that numeric limitations [for the General Construction Permit] were not feasible and that narrative effluent limitations in the form of BMPs would be used instead.").

[17] *Communities for a Better Environment v. State Water Resources Control Board* (2003) 109 Cal. App. 4th 1089, 1106.

[18] *See, e.g.*, Fact Sheet for Water Quality Order 99-08-DQW, State Water Resources Control Board ("USEPA also conducted an extensive evaluation of the literature to identify pollutants present in storm water discharges from construction sites. They found that while the literature contains extensive information on pollutants present in storm water discharges from urban areas, there were little data available on pollutants present in storm water discharges from construction sites during the active construction phase, other than for sediment, TSS and turbidity. USEPA was not able to identify sufficient data in the literature to warrant development of controls specific to pollutants other than sediment, TSS and turbidity in storm water discharges from construction sites. Some literature suggests that pollutants adhere to sediment, so that regulating TSS should also act as a control for other pollutants.").

[19] 40 C.F.R. § 122.44(d).

precipitation systems. Furthermore, Regional Board staff expressed at the workshop the expectation that lower cost non-structural and structural BMPs—such as improved street sweeping, infiltration trenches, and sand filters—would enable dischargers to meet the TMDL requirements. Clearly, the Regional Board expects lower-cost, non-diversion and treatment BMPs to play a pivotal role in achieving TMDL requirements.

However, in the case of metals this expectation may overreach the actual capabilities of low-cost BMPs. Typical BMPs such as detention basins are not able to remove a significant proportion of dissolved metals from storm water. Most BMPs rely on physical settling to remove metals. For particulate metals or metals bound to sediment, settling may achieve substantial removal. However, dissolved metals are unaffected by physical settling and therefore largely remain in storm water, even after BMP treatment.

For example, according to BMP effectiveness data compiled by the American Society of Civil Engineers, the BMPs that are most effective at removing dissolved metals are retention basins, treatment wetlands, or biofilters (up to 44% of dissolved copper, 66% of dissolved lead, and 69% of dissolved zinc). However, treatment wetlands and biofilters are clearly inappropriate for the conditions that characterize Southern California storm water: plant species that provide crucial metals uptake in retention basins, treatment wetlands, and biofilters would not survive in the arid environment where stormwater inflows are intermittent. Moreover, it is impractical to design retention basins, treatment wetlands, or biofilters large enough to treat the enormous volumes of stormwater produced by a significant Southland storm.

More practical BMPs for Southern California—such as infiltration trenches, and sand filters—are only capable of 11% removal of dissolved copper, 21% removal of dissolved zinc, and 50% removal of dissolved lead. Therefore, if these BMPs alone were implemented, significant quantities of dissolved metals would remain in storm water before discharge to regulated receiving waters. This is especially true during large storms when BMPs would be able to filter only a small portion of the total storm water in the watershed. This issue is particularly pertinent since dissolved metal—not particulate metal—is the fraction that contributes to toxicity in receiving waters.

These limitations suggest that the installation of these types of BMPs alone, or even with the use of nonstructural BMPs, may not be adequate to achieve the requirements of the TMDL. If this becomes the case, the TMDL Staff Report states that "additional controls may be imposed" (p. 68). Moreover, the Staff Report refers directly to the possibility that diversion and treatment of storm water may be required (p. 66-67), though it characterizes potential treatment facilities as "small" without any justification for such characterization.

**Monitoring**

Regional Board staff stated in the 19 August 2004 workshop that the only official compliance point in the Los Angeles River watershed is the Wardlow station, and that other locations throughout the watershed would be regarded as "effectiveness monitoring stations" However, a review of the

proposed Basin Plan amendment appears to directly contradict this assertion:"[I]nitially, there will be a single compliance assessment point for stormwater at the Wardlow gage station. However, the co-permittess [sic] shall increase the number of *compliance monitoring locations* to demonstrate compliance with the phased implementation schedule for this TMDL…" (Attachment A to Resolution No. 2004-XXX, p. 8) (emphasis added). It appears, thus, that the co-permittees under the various MS4 permits will be required to establish additional compliance monitoring locations in addition to the Wardlow station.

However, the proposed Basin Plan amendment's requirement for additional compliance monitoring remains unspecified, as does the mode of determining whether a flow (or a particular discharger) is in or out of compliance with the TMDL. Leaving the determination of compliance up to the dischargers and failing to specify monitoring requirements potentially would create the need for very extensive monitoring.

For example, individual sites may be forced to collect composite or flow-weighted samples to determine compliance with CTR concentration-based "load allocations" in the form of EMCs. As noted previously, unlike continuous point source discharges (e.g., POTWs), storm water discharges are variable in intensity and duration. Therefore, multiple water quality and flow measurements over many hours would be required to determine the compliance or non-compliance of a storm water discharge with an EMC criterion. In the case of most storm water discharges, this kind of intensive monitoring program is not currently in effect and would be *very* expensive to implement given the high costs of both labor and equipment. Such costs are not considered in the economic evaluation of the TMDL.

## MODELING ASSESSMENT

A review of the proposed Los Angeles River Watershed metals TMDL appears to indicate that the modeling was generally conducted according to sound engineering principles. However, very few data are available for the calibration and validation of modeling such as that conducted in support of the TMDL, and it was necessary for the modelers to make several major assumptions. Notably, the modeling makes gross assumptions that fail to capture the spatial and temporal variability that occurs in such a large, complex watershed as the Los Angeles River watershed. As a result, many of the calibrations and validations are poor, and, although the modeling represents a commendable effort, the model results fail to depict the variability that occurs within the watershed. Importantly, even though appropriate methodology was generally followed in performing the modeling, the modeling as presented in the TMDL Staff Report does not appear to be sufficient or appropriate for supporting the implementation actions proposed by the TMDL. Indeed, the modeling was not relied upon in any substantive way in determining the load or waste load allocations developed by the TMDL. The discussion that follows probes some of the assumptions and points out shortcomings of both the dry weather and wet weather modeling, and its application in the TMDL.

**Dry Weather Model**

The dry weather modeling employed two distinct models. The first, the one-dimensional version of the hydrodynamic model Environmental Fluid Dynamics Code (EFDC) was used to simulate water flow through the system. This model was linked to the second model, the Water Quality Analysis Simulation Model (WASP), which simulated metals concentrations throughout the watershed. The EFDC model was calibrated using a dataset collected on September 10 and 11, 2000 and validated using a dataset collected on July 29 and 30, 2001. The WASP model was neither calibrated nor validated for application to the Los Angeles River watershed; instead, model results were compared to measured results without adjustment of model parameters.

The dry weather modeling conducted in support of the Los Angeles River metals TMDL contains a flow calibration that appears to be inadequate. According to Figure 5 in the Staff Report (p. 90), the dry weather model best matched the maximum flow rates (not the median or average flow rates) recorded at three out of the four stream gages along the main stem of the Los Angeles River. Data from the fourth gage have such a small range that even though the model simulates the low end of the flow range at this gage, it is also quite close to the highest observed value. Moreover, the calibrated flows are significantly higher than the long-term median flows presented in the TMDL for the Tujunga, Firestone, and Wardlow gages (78 cfs, 124 cfs, and 145 cfs respectively). Either rational criteria for choosing to calibrate to the high end of the flow range should be presented, or it should be acknowledged that one weakness of the model is that it represents not average or median but high dry weather flow conditions. This is significant, since calibration to higher flows will tend to produce modeling results that over-estimate the total pollutant loads in the river.

Second, the water quality comparison of the dry weather model is also inadequate, as illustrated in Figure 6 of the Staff Report (p. 91). While the comparison of modeled and 'measured' data for cadmium and lead appear reasonable, there are very few data points available for cadmium and lead, and these plots compare model results to one-half the detection limit for these metals (i.e., the model results are 'compared' to concentrations of these elements despite a lack of measured data for all but one value). The model is not able to reproduce dry weather concentrations of copper or zinc with any precision. Moreover, in Figure 6, both copper and zinc are presented on graphs with y-axes that are longer than necessary, leaving the impression that observed data are clustered closer to the model results than is actually the case. If the y-axes for these plots covered only the range of values in the plots (e.g., 30 g/L for copper and 150 g/L for zinc), the calibration fit would look considerably worse than it does in the existing figures. Very similar comments can be made regarding the validation of the dry weather model (p. 92).

Finally, the Staff Report misstates the model calibration and validation results. . The Staff Report states that "Figure 5 presents comparisons of the measured versus simulated flows at…four stations located along the mainstem of the Los Angeles River for September 11, 2000 and July 29, 2001" (p. 42). Also, Figure 5 is labeled as "Validation of dry-weather hydrography." However, as demonstrated by the identical figure in Appendix I (Figure 3-12), the TMDL report Figure 5 in fact only presents *calibration* data for September 11, 2000, not validation data for July 29, 2001. The

TMDL report actually does not present the dry weather model validation data, though it is presented in Appendix I (Figure 3-14). This figure demonstrates significantly poorer agreement between measured and modeled flows, with most model predictions falling outside the range of measured flow data.

**Wet Weather Model**

Wet weather modeling was conducted using USEPA's Loading Simulation Program C++ (LSPC) to represent both hydrology and water quality within the Los Angeles River watershed. This model divides the watershed into a number of sub-watersheds and incorporates meteorological data, land use data, and information describing soils and individual reach characteristics. Where possible, this model estimates of input parameters from the Los Angeles River watershed (e.g., land use characteristics, reach geometry, soil type, meteorological data). Other parameters were derived from modeling conducted in the smaller Ballona Creek watershed (e.g., water quality parameters).

One significant concern with the wet weather modeling is that comparisons between modeled results and observed data were often made on the basis of timescales that do not allow a realistic assessment of the dynamic, arid, urban Los Angeles River watershed. Although the Staff Report states (p. 50) that the hydrographic calibration plots (e.g., Figure 9a) display "modeled and observed *daily* flows" (emphasis added), the caption for Figure 9a indicates that the figure compares *monthly* flows. A comparison of monthly wet weather flows is inadequate for such a dynamic watershed as that of the L.A. River, where response times for the watershed are on the order of days and more often hours and minutes.[20] Comparing monthly flow values drastically reduces peak flow rates for most storm events, making it impossible to determine whether or not the model is adequately simulating the actual hydrologic regime of the watershed. Also, as noted below, evaluation of TMDL compliance and water quality concentrations will likely be on significantly shorter timescales.

The most fundamental problem with the wet weather calibration is that the model does not adequately reproduce empirical data describing watershed hydrology and water quality. The TMDL statement that "during model calibration the model predicted storm volumes and storm peaks well" (p. 51), is misleading. In some cases the model did seem to reproduce *annual* flow volumes[21] and

[20] A recent draft report by SCCWRP ("Wet Weather Model Development for Trace Metal Loading in an Arid Urbanized Watershed: Ballona Creek, California," April 30, 2004) states, "In order to capture the dynamic processes of arid urban environments, simulations should be conducted on time scales of minutes. Understanding within storm processes is especially important if the resulting model is to be used for predicting the effectiveness of stormwater controls." Certainly the Los Angeles River watershed is an arid, urban environment and thus should be modeled on short timescales.

[21] For example, modeled and measured annual flow volumes are in reasonable agreement for Rio Hondo above Stuart and Gray Road, Table B-1; Burbank Western Storm Drain at Riverside Drive, Table B-3; L.A. River above Arroyo Seco, Table B-6; L.A. River below Firestone Boulevard, Table B-7.

average *monthly* flow rates[22] reasonably well. However, in multiple cases the model did a poor job at reproducing monthly flow rates and annual flow volumes[23]. Moreover, in most cases the model did a poor job of reproducing the observed average *daily* flow rate record for the selected gages[24].

The inadequacies of the calibration are perhaps most evident not on the time scale of the entire hydrologic record at each gage (as displayed in Appendix B), but on the time scale of individual storm events. For the storm events used in calibration—which occurred on the timescale of hours and days rather than months or years—the model was unable to adequately reproduce observed data. Almost every figure in Appendix C exemplifies this point. Figures C-1 through C-10 compare both observed data and model results—hydrology and water quality—for several storm events at several locations in the watershed. In all of the figures either the timing or the magnitude of the observed primary hydrograph peaks were inadequately reproduced by the model, and in most cases both the timing and the magnitude of the hydrograph peaks are off.

The water quality calibration displayed in the figures contained in Appendix C is even poorer than the hydrologic calibration. For none of the events and for none of the constituents modeled was the model able to reproduce observed data with any precision. It is telling that there is no quantitative evaluation of the fit between modeled and observed storm event data analogous to the more quantitative evaluation in Appendix B: such an analysis would likely further reveal the shortcomings of the water quality modeling.

In addition, the comparison of modeled and observed event mean concentrations (EMCs) in Figures C-11 through C-14 is misleading. At first glance these plots suggest that the calibration is somewhat reasonable for EMCs. However, the y-axis of these plots has a logarithmic scale that spans five orders of magnitude, making the model results look closer to measured values than they really are. In some cases, model results appear to be within 25% of observed data, but in fact they are over an order of magnitude different due to the logarithmic scaling. For example, Figures 1 and 2 on the following page show TMDL Figure C-14 plotted on logarithmic scales (as in the Staff Report) and on arithmetic scales for comparison. Logarithmic plots look slightly different from Staff Report Figure C-14 since the exact data used to produce these plots were unavailable. Flow Science used best estimates of these data based on actual model output files and 2001 LACDPW storm water quality data for the Wardlow gage. Figures C-11 through C-14, and all figures in Appendix D (D-1 through D-27), should be revised to include an arithmetic y-axis scale. It is also worth noting that

[22] For example, monthly flow rates are reasonably represented by the model at L.A. River at Tujunga Avenue, Figure B-8; Burbank Western Storm Drain at Riverside Drive, Figure B-12; L.A. River above Arroyo Seco, Figure B-24; L.A. River below Firestone Boulevard, Figure B-28; L.A. River below Wardlow River Road, Figure B-32.

[23] See, e.g., Rio Hondo above Stuart and Gray Road, Figure B-4; L.A. River at Tujunga Wash, Table B-2; Compton Creek near Greenleaf Drive, Figure B-16, Table B-4; Verdugo Wash at Estelle Avenue, Figure B-20, Table B-5.

[24] See, e.g., Rio Hondo above Stuart and Gray Road, Figure B-1; Burbank Western Storm Drain at Riverside Drive, Figure B-9; Compton Creek near Greenleaf Drive, Figure B-13; Verdugo Wash at Estelle Avenue, Figure B-17; L.A. River below Wardlow River Road, Figure B-29.

Staff Report Appendix Figure C-14 includes one storm event that is based on questionable data. The wet weather Appendix notes that data collected at Wardlow for the 10 February 2001 storm event are likely erroneous (Wet Weather Model Appendix, p. 21). Thus, wet weather water quality model results were compared to observed conditions for only one legitimate event at the Wardlow gage. This hardly seems an adequate basis on which to assess model performance.

One reason the modeled water quality results differ from measurements may be the use of the "potency factors." Regional potency factors for the Southern California area were developed previously by SCCWRP and were recently applied to the Ballona Creek watershed and used in the Los Angeles River watershed TMDL.[25] These potency factors were derived from correlations between suspended sediment and metals concentrations for Ballona Creek and the Los Angeles River. As assumed in the TMDL modeling, there is a clear relationship between TSS and metals concentrations. However, for a given TSS concentration, there is a large range in observed metals concentrations. For example, observed copper and zinc concentrations varied by at least an order of magnitude, and observed lead concentrations varied by approximately two orders of magnitude, for a given suspended solids concentration.[26] Use of a single potency factor for a given land use type precludes simulation of the variability in concentrations that certainly occurs and that may be dependent upon a variety of factors (e.g., time since last rainfall, rainfall intensity, etc.).

Further, the modeling used potency factors assuming that trace metals are "completely particulate-bound during washoff."[27] However, trace metals are conveyed from a site in both dissolved and particulate form, and the fraction that is dissolved has significant implications for toxicity and receiving water impacts. This distinction may become critically important in assessing compliance for individual industrial sites and individual construction sites, where a large fraction of metals in storm water runoff may be present in the particulate fraction, not in the more toxic dissolved fraction. Therefore, the use of potency factors may not be supported by a rigorous understanding of the

[25] Development of the potency factors is reported in Cross, J., K. Schiff and H. Schaefer, 1992. "Surface Runoff to the Southern California Bight." pp. 19-28 in: J. Cross (ed.), Southern California Coastal Water Research Project Annual Report 1989-1990. Long Beach, CA. Potency factors were updated with more current data and applied to the Ballona Creek watershed as reported in Ackerman, D., K. Schiff, E. Stein, 2004. "Draft: Wet Weather Model Development for Trace Metal Loading in an Arid Urbanized Watershed: Ballona Creek, California." Southern California Coastal Water Research Project. April 30.

[26] See Figure 2 at p. 17 of Ackerman, et al., 2004.

[27] Ackerman et al, at p. 8.

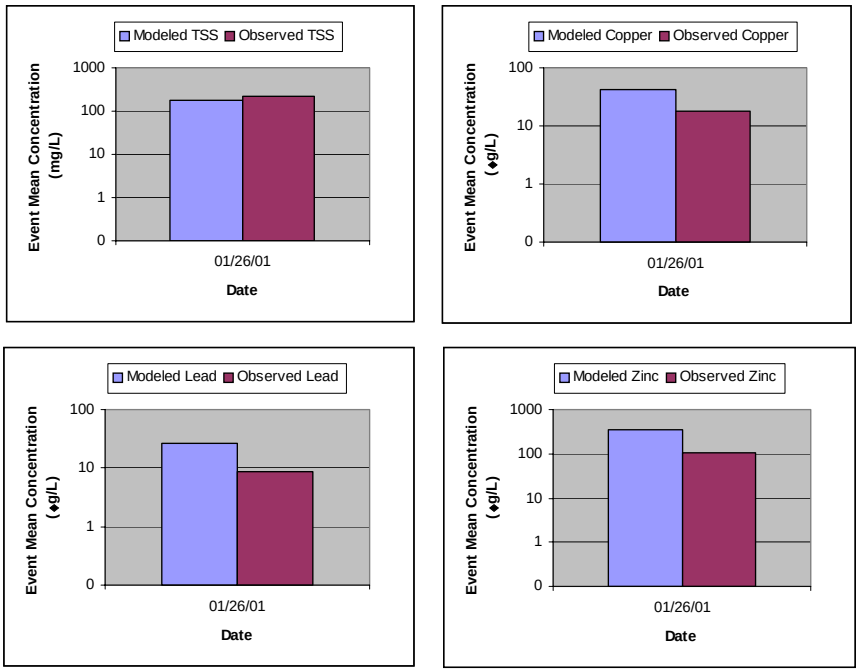


**Figure 1 – Event Mean Concentrations on Logarithmic Scale**

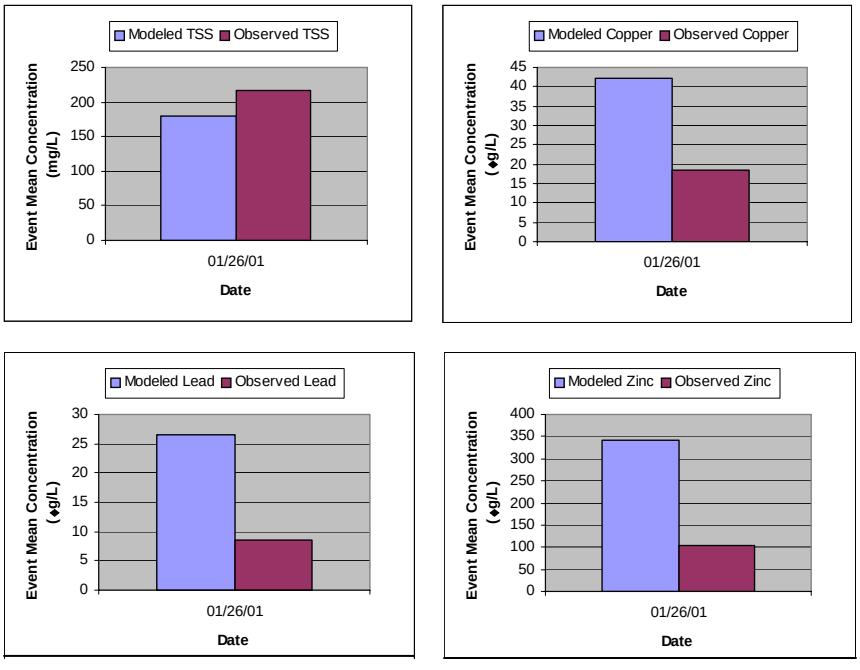


**Figure 2 – Event Mean Concentrations on Arithmetic Scale**

physical processes governing constituent transport in runoff, though they may yield appropriate model results given the linear relationship between sediment and metals.

Therefore, on the whole, while the wet weather model was formulated using sound methodology and the best available data, the model is not able to reproduce observed conditions with adequate precision or accuracy, particularly on timescales of days or hours, and particularly for smaller areas within the larger watershed. Therefore, the model appears to be inadequate for establishing fair and accurate waste load allocations. Moreover, unless vastly more data were available and utilized, it is unlikely that the inadequacies of the modeling can be addressed in a straightforward manner. In fact, it may be that attempting to quantify urban watershed processes that are so variable and uncertain with the kind of precision implied by a computer model is unrealistic and misguided. A less precise but still effective approach to water quality management in the watershed—such as establishing basic BMP strategies and working on manufacturing standards issues (e.g., eliminating copper in brake pads)—may be a preferable approach to managing metals concentrations in the watershed.

**Model Application**

It is crucial to understand how, if at all, the TMDL modeling was used to specify discharge requirements or load allocations for small dischargers in the upstream portion of the watershed, such as industrial sites. The short answer to this question seems to be that the modeling is in fact irrelevant to the TMDL requirements for small upstream dischargers. Mass-based dry weather allocations—for which the dry weather modeling should be applicable—were specified for select point dischargers (specifically the three POTWs, and a group mass-based allocation for L.A. County MS4, Long Beach MS4, and Cal Trans; p. 55). However, other dischargers—including industrial and construction sites—are simply required to meet CTR concentrations in their discharge during dry weather conditions (p. 57). The dry weather modeling conducted in support of the TMDL has no bearing on this requirement.

The only point in the watershed where the model was used to calculate specific wet weather water quality load requirements is at the Wardlow stream gage near the bottom of the watershed. Specific wet weather modeled load capacities have been developed only for the Wardlow gage location. At every other point or reach in the watershed, discharge requirements appear to be specified in terms of
CTR concentrations, with the exception that POTWs retain their dry weather mass-based allocations even during wet weather. The TMDL assumes that if all small dischargers simply meet CTR concentrations prior to discharge, the receiving water will comply with the CTR concentrations. In this way, CTR metals concentrations are the end-of-pipe requirements for small dischargers. The wet weather TMDL modeling has no bearing on this requirement.

In fact, it could even be argued that the modeling has no relevance to the downstream load capacity curves calculated for Wardlow. The load allocations at Wardlow are simply the modeled flow for a given storm event multiplied by the CTR concentration. In effect, these allocations mean that for any given storm event, the allowable metals load is that which would occur if the event mean concentration (EMC) were the CTR concentration. The TMDL could simply have specified that all events measured at the Wardlow gage must have an EMC that is no higher than the CTR concentration and staff could have forgone flow and water quality modeling altogether. Thus, the modeling is essentially irrelevant to the discharge requirements for small dischargers in the watershed. The TMDL simply imposes CTR concentration-based requirements on all but several select point sources in the watershed.

Ideally, modeling should provide a tool to evaluate which sub-watersheds are causing non-attainment of water quality objectives, and to develop proper and scientifically defensible allocations within the TMDL. Several reaches for which waste load and load allocations are specified are not included on the 303(d) list; available data for additional reaches that *are* included on the 303(d) list indicate that listing for these reaches is *not* warranted. (These assertions are fully detailed elsewhere.) If properly implemented and utilized by the Regional Board, both the dry and wet weather modeling could be used as tools to properly establish waste load and load allocations throughout the watershed, to identify the true sources of water quality impairment, and to establish allocations that are based on firm science and that are consistent with available data and known impairments.

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Stolzenbach, Keith D. Rong Lu, Cheng Xiong, Sheldon Friedlander, Richard Turco, Ken Schiff, Liesl Tiefenthaler, 2001. "Measuring and Modeling of Atmospheric Deposition on Santa Monica Bay and the Santa Monica Bay Watershed," Final Report to the Santa Monica Bay Restoration Project, September. ftp://ftp.sccwrp.org/pub/download/PDFs/346_smb_atmospheric_deposition.pdf

In light of these facts, we suggest that it is a violation of the due process rights of the stakeholders for the Regional Board to consider this action, as well as the proposed Basin Plan amendment for Ballona Creek, on September 2. We renew our request that the proposed Basin Plan amendment be considered at a future hearing of the Regional Board.

**SPECIFIC COMMENTS**

**1. Unsuitability of California Toxics Rule as Numerical Objective for TMDL in Wet Weather**

The proposed Basin Plan amendment states that the TMDL "sets numeric water quality targets based on water quality objectives established by the California Toxics Rule (CTR)" for both dry and wet weather. Attachment A to Resolution No. 2004-XXX, Table 7-13.1. See also U.S. Environmental Protection Agency and Regional Board staff report, "Total Maximum Daily Loads for Metals Los Angeles River and Tributaries," July 9. 2004 ("Staff Report"), p. 18. We submit that the CTR is inappropriate as a standard for metals concentrations in stormwater on both regulatory and scientific grounds.

A review of the incorporation of the CTR into the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (known as the State Implementation Policy, or "SIP"), indicates that the policy never was intended to apply to the regulation of storm water discharges. See footnote 1 to the SIP (which document is attached as Exhibit 6 to the comments of Rutan & Tucker on behalf of a number of cities, filed concurrently herewith).

The SIP provides guidelines for determining when a discharge has a "reasonable potential" to cause or contribute to an excursion above an applicable priority pollutant concentration or objective. The SIP also provides a process for determining the appropriate effluent limitation for that pollutant. These calculation procedures are not, however, intended to apply to storm water discharges, and indeed, are inappropriate for such discharges. This is so due to the intermittent, highly variable and complex nature of a storm event. In most cases, sufficient data do not exist for storm water discharges to make a defensible analysis of "reasonable potential."

Moreover, a review of EPA's regulatory record accompanying the adoption of the CTR criteria indicates that the criteria were never intended to apply to storm water discharges, and were not intended to be applied without consideration of dilution. Moreover, the CTR criteria were not intended to be applied as never-to-be-exceeded values. Please see the attached Flow Science report regarding the regulatory record of the CTR rule.[1]

[1] Ironically, one of those comments was made by EPA to a comment made by the County of Los Angeles that application of the CTR to stormwater discharges would result

We anticipate that staff will respond to this comment by noting that because the CTR standard is intended for specified receiving waters, including those in the Los Angeles River watershed, it must be employed as the numerical objective for the TMDL. However, in wet weather conditions, it is plain that those very receiving waters, which serve as the flood control system for much of the Los Angeles Basin, are merely conduits for storm water flows. This is noted in the proposed Basin Plan amendment itself: Certainly, the Staff Report itself notes this fact: "Stormwater dominates the flows in the Los Angeles River when it rains." Staff Report, p. 31. The hardness values used for the calculation of the CTR "translators" were derived from stormwater sampling. *Id.*, pp. 31-32.

In summary, there appears to be no support for applying CTR criteria directly to storm water discharges in the context of a TMDL. Application of these criteria as never-to-be-exceeded end-of-pipe limitation, especially without consideration of dilution in the receiving water, was clearly never contemplated during the development of the CTR criteria. Were the Regional Board to adopt the CTR criteria as numerical objectives for wet weather flows in the Los Angeles River watershed, it would be doing so in clear violation of the rationale for the CTR criteria, without evidence in the record, and in an arbitrary and capricious manner.

## 2. Improper Application of TMDLs to Non-Listed Reaches

It is undisputed that TMDLs are required under federal law to be applied to waterways that are listed as "impaired" under Section 303(d) of the Clean Water Act. *See* 40 CFR § 130.7(c)(1) ("Each State shall establish TMDLs for the water quality limited segments identified in paragraph (b)(1) of this section . . . .")The proposed Basin Plan, however, proposes to include several reaches for all metals covered by the TMDL, even where such reaches are not listed as impaired for various metals.

The attached Flow Science report, in Table 1, reflects those reaches that are not impaired for metals. Those reaches include reaches 3, 5 and 6 of the Los Angeles River, which are unimpaired for any metals, as well as a number of reaches that are impaired for only a single metal.

Nevertheless, the proposed Basin Plan would establish wasteload allocations for the above-listed metals in these reaches, in plain violation of federal law. Moreover, the compliance assessment monitoring provisions in the proposed Basin Plan amendment, as well as the schedule for compliance with the TMDL,

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in the application of numeric Water Quality Based Effluent Limits and the need to construct costly end-of-pipe controls. USEPA brushed backed the County's concern, stating that it was "premature to project that storm water discharges would be subject to strict numeric WQBELs" and that "[n]obody builds treatment for stormwater treatment in this country." See Exhibit 3 to Rutan & Tucker letter, Respone to CTR 002-017.

require that additional compliance monitoring locations be established throughout the watershed, including these reaches, to reflect compliance with the TMDL.

We note that the San Diego Superior Court recently held that the Regional Board abused its discretion when it included the Los Angeles River Estuary in the TMDL for trash, even though the Estuary had not been listed pursuant to Section 303(d) as being impaired for trash. See Statement of Decision and Judgment in *Cities of Arcadia et al. v. State Water Resources Control Board,* Case No. GIC 803631, at 9.

We therefore recommend that the Regional Board direct staff to revise the TMDL to remove those waste load allocations identified on Table 1 of the attached Flow Science report.

### 3. The Listing of Burbank Western Channel as Impaired for Cadmium is Improper

The Staff Report indicates that Burbank Western Channel was listed as impaired for a *single* exceedance of the chronic CTR criterion for dissolved Cadmium in 96 sampling events. Staff Report, p. 21. This represents a single exceedance in 24 years of monitoring, since this reach is monitored on a quarterly basis.

The CTR notes that a metals concentration is considered to violate the chronic metals criterion only if concentrations exceed the criterion more than once every three years. The exceedance recorded in the Burbank Western Channel does not exceed this criterion. The data collected also is problematic, as it recorded total Cadmium concentration not the dissolved Cadmium concentration contained in the CTR. Thus, it is possible that the datapoint may not even truly exceed the CTR chronic criterion.

Moreover, the grab sample that derived the one exceedance cannot adequately express an exceedance of the CTR chronic criterion, since that criterion is understood as a 4-day average concentration, not an instantaneous concentration. (While a grab sample is proper to assess exceedance of the CTR acute criterion, the Burbank sample in question did not exceed that acute criterion. Staff Report, p. 22.)

At the August 19 workshop, a USEPA representative was asked whether it would make more sense to petition for a delisting of the Burbank Western Channel for cadmium than to include that reach in the TMDL. Interestingly, the USEPA representative indicated that he would press for delisting. We therefore request that the Regional Board direct staff to revise the 303(d) listings upon which the TMDL is based to ensure that only those reaches truly impaired by metals contamination be included within the TMDL.

## 4. Failure to Include Load Allocations for Nonpoint Sources

The proposed Basin Plan amendment fails, in two significant ways, to follow the requirements laid down by USEPA to establish load allocations for non-point sources of metals. The first failure relates to the fact that the proposed Basin Plan amendment does not account for the significant impacts of atmospheric deposition of metals on the urbanized watershed, an effect well documented in scientific studies. Instead, the MS4 permittees must account for such deposition, because, according to the Staff Report, it is discharged (in the urbanized area of the watershed) into the MS4 system.

The second failure relates to the refusal of the Staff Report to even discuss, or for the proposed Basin Plan amendment to account for, the loadings of metals coming from the non-urbanized areas of the watershed. In the Los Angeles River watershed, these areas constitute some 44 percent of the total area of the watershed.

**a. Failure to Account for Atmospheric Deposition in Urbanized Areas** -- As the attached Flow Science report notes, aerial deposition from basin-wide sources "likely constitutes a significant portion of the trace metals found in storm water in the Los Angeles River watershed." Flow Science report, p. 8. We have attached as Exhibit A a study performed by Stolzenbach et al. (referred to in the Flow Science report) that documents that influence.

Moreover, as the Flow Science report also notes, the failure of staff to include this deposition as a non-point source beyond the control of the MS4 and Caltrans dischargers, may violate law. This was an issue in the recent case of *Communities for a Better Environment v. SWRCB,* 109 Cal. App. 4th 1089 (2003), where the Court of Appeals held that the imposition of strict dioxin limits on a refinery, limits which could not be met by the refinery due to ambient air deposition of dioxins, was unlawful.

Indeed, the Regional Board and the State Water Resources Control Board both have categorized atmospheric deposition in the Los Angeles River watershed as a non-point source in the "Draft Strategy for Developing TMDLs and Attaining Water Quality Standards in the Los Angeles Region," a copy of which is being attached to comments being filed by the Rutan & Tucker law firm, and which we hereby incorporate by reference.

**b. Failure to Account for Runoff From Non-urbanized Areas** – As the Flow Science report notes, the Staff Report assumes that loads from the non-urbanized areas of the watershed, such as the Los Angeles National Forest and areas of the Santa Monica Mountains, are insignificant sources of metals under both dry and wet weather conditions. Staff Report, pp. 58, 61. However, the Staff Report provides no empirical data or analysis to support this assertion.

And, in fact, as the Flow Science report notes, there is significant evidence that such areas *do* contribute significantly to metals loadings in the watershed.

In particular, Flow Science noted that Monrovia Canyon Creek, a sub-watershed dominated by natural and open land uses, is listed as impaired for lead. This fact alone suggests the potential influence of the natural areas for influencing metals loadings.

The Code of Federal Regulations requires that the formulators of a TMDL identify both appropriate waste load allocations for point sources and load allocations for nonpoint sources and natural background. 40 CFR §§ 130.2(e)-(i); 130.7(c). This identification also is required by USEPA guidance for the development of TMDLs in California. (See Exhibit 1 to Rutan & Tucker comment letter, filed concurrently herewith). The Regional Board's failure to identify such load allocations in the proposed Basin Plan amendment violates the Clean Water Act. Moreover, it is arbitrary and capricious for the Regional Board to assume, without any evidence or analysis, that metals sources in the non-urbanized areas may be ignored.

**5. Inclusion of Construction Sites**

As noted in the attached Flow Science report, there is little evidence that construction sites have any reasonable potential to contribute to exceedances of water quality standards. Moreover, applying waste load allocations to construction storm water runoff is inconsistent with previous State Board determinations that it is infeasible to impose numeric effluent limits on construction runoff. Also, as noted by the State Board in the fact sheet accompanying Water Quality Order 99-08-DQW, USEPA's evaluation of the literature on pollutants present in storm water discharges from construction sites only indicate the presence of sediment, TSS and turbidity.

**6. The proposed Basin Plan Amendment Violates the Requirements of Water Code § 13242**

Water Code § 13242 provides that the program of implementation for achieving water quality objectives "shall include, but not be limited to: (a) A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private."

The proposed Basin Plan amendment contains no "description of the nature of actions which are necessary to achieve the objectives" of the metals TMDL. Instead, the Staff Report contains a series of loosely described non-structural and structural BMPs. Staff conducted no analysis of the ability of these BMPs to achieve compliance with the very minute concentrations of metals represented by the CTR criterion. The Basin Plan amendment states that "[a] phased implementation approach, using a combination of non-structural and structural best management practices (BMPs) *could be used* to achieve compliance with

the municipal stormwater waste load allocations." Attachment A to Resolution No. 2004-XXX, p. 7. The Regional Board provides, however, no guidance on what combination might work, and where.

Indeed, the proposed Basin Plan amendment calls upon the regulated community to develop the implementation plan through the MS4 permits for Los Angeles, Long Beach and Caltrans: "The administrative record and the fact sheets for the MS4 and Caltrans stormwater permittees must provide reasonable assurance that the BMPs selected will be sufficient to implement the waste load allocations in the TMDL."

Unfortunately, the BMPs noted in the Staff Report are vague and in some cases entirely unworkable. For example, one non-structural BMP suggested would be for MS4 permittees to support "legislative action with state and federal agencies to pursue the development of [non-copper] materials for brake pads." Staff Report, at 66. While this may be a laudable goal, the constituents of vehicle brake pads cannot be regulated by local agencies or the State of California. And, were the permittees to advocate such legislation, unsuccessfully, this "BMP" obviously would be of no use in reducing copper concentrations in the watershed.

The Staff Report repeatedly emphasizes the importance of source control, a point upon which we agree. However, the Report does not provide any guidance as to what types of sources (beyond general information on land use types) may be rich sources of pollutants. It is left to the regulated community to attempt to identify these sources.

With respect to structural BMPs, the Staff Report notes the potential use of infiltration trenches or filters "at critical points in the stormwater conveyance system." No guidance is provided, however, as to the size or type of such trenches or filters, nor is there any suggestion that such devices will ensure compliance, either on their own or in conjunction with non-structural and other structural BMPs. Also, the Staff Report provides no empirical basis for dischargers to assess whether installation of these types of structural BMPs will achieve compliance with the TMDL.

The Staff Report also discusses, in very vague terms, the use of diversion and treatment of waters. While the Staff Report suggests that modeling indicates that "loading capacity can be halved through the capture of a 0.5 inch storm," no information is provided as to the capital costs or maintenance costs involved in such facilities, much less the land acquisition costs required.

With respect to the potential effectiveness of BMPs, we direct your attention to the Flow Science report, in which there is a discussion of the relative effectiveness of various structural BMPs. As you can see, while such BMPs may

be quite effective at capturing total metals, dissolved metal capture is much less effective.

The Flow Science report notes that because of the relative inability of lower-cost BMPs, such as sand filters or biofilters, to remove dissolved metals, dischargers may ultimately be required to install a diversion and treatment technology to achieve compliance with the TMDL. At the August 19 workshop, a representative from one Publicly Owned Treatment Work indicated that the only way for his facility to meet the TMDL limit applied to that facility would be to install a reverse osmosis system. While Regional Board and US EPA staff strongly denied that such technology would be required for TMDL compliance, there is no discussion in the Staff Report as to the basis for such denial.

## 7. Monitoring Issues

As a general comment, Water Code § 13267 requires that an analysis be conducted of the costs and benefits of technical or monitoring program reports, and that the "burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports." Water Code § 13267(b)(1). Moreover, Water Code § 13225(c) requires a similar cost/benefit analysis if the Regional Board requires a local agency to investigate and report on technical factors involved with water quality. No such cost/benefit analysis has been conducted of the compliance/ambient monitoring programs called for in the proposed Basin Plan amendment, nor of the proposed special studies required under the amendment.

It may be noted that the San Diego Superior Court in the trash TMDL case invalidated that TMDL in part due to the Regional Board's failure to conduct such a cost/benefit analysis prior to adoption of that TMDL.

**a. Compliance Monitoring** -- As noted in the attached Flow Science report, there appears to be a difference of opinion as to the purpose of compliance monitoring in the proposed Basin Plan amendment. At the August 19 workshop, staff, including Interim Executive Officer Jon Bishop, indicated that the purpose of monitoring was to establish BMP effectiveness. If initial monitoring indicated that the waste load allocation was being exceeded, additional BMPs would be required, with further monitoring to establish the effectiveness of the additional BMPs.

Mr. Bishop agreed that this approach was consistent with the "iterative approach" interpretation of the NPDES MS4 permit. However, the proposed Basin Plan amendment instead requires permittees to "increase the number of compliance monitoring locations to demonstrate compliance with the phase implementation schedule for this TMDL." Attachment A to Resolution No. 2004-XXX, p. 8. This suggests instead that strict compliance with receiving waters limitations would be required of the permittees, an interpretation which, we believe, is belied by the

language of the MS4 permit and which violates the "maximum extent practicable" standard required of municipalities under the Clean Water Act.

We recommend that the proposed Basin Plan be modified to reflect the monitoring and compliance approach apparently advocated by staff at the August 19 workshop. Such an approach also could incorporate a BMP-centered compliance methodology, such as that suggested by the trash TMDL. For example, BMP implementation could be considered to meet the requirements of the TMDL if technology is installed that will remove the required percentage of metals for a given design storm. The installation and auditable maintenance of such a BMP would obviate the need for monitoring, at least downstream of that BMP.

**b. Ambient Monitoring** – The proposed Basin Plan amendment would require the MS4 permittees and Caltrans to conduct an ambient monitoring program throughout the Los Angeles River and its tributaries. The required monitoring is of reaches that are not listed as impaired for metals, as we noted above. These reaches include Reaches 3, 5 and 6 of the Los Angeles River and Arroyo Seco. Requiring monitoring of unimpaired reaches violates the requirements of Water Code § 13267. The Department also has comments regarding the time deadlines for this monitoring and other significant milestones in the proposed Basin Plan amendment, which are discussed separately below. Also, please note the comments of Flow Science with respect to the effectiveness of compliance monitoring of stormwater events.

## 8. Consideration of Impacts Under Water Code § 13241

Water Code § 13241 requires a regional board, when it establishes water quality objectives in water quality control plans (Basin Plans), to consider among other items, "economic considerations." Water Code § 13241(e). This factor, and others, including the past, present and probably future beneficial uses of water and the need for developing housing within the region, must be considered when each regional board establishes "such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance . . . ." Water Code § 13241. The Resolution proposing to adopt the Basin Plan amendment does not indicate that the Regional Board considered, or will consider, the factors set forth in Section 13241. Moreover, the Staff Report contains no assessment of economic factors beyond a cursory description of potential costs for certain non-structural and structural BMPs (a description which does not even include land acquisition costs).

The *Arcadia* court found that, because the TMDL represents an amendment of the Basin Plan, the Regional Board was required to conduct an evaluation of the economic factors set forth in Water Code § 13241. That court held that if "the TMDL was originally part of the Basin Plan it necessarily would have made

economic considerations under section 13241. It is certainly reasonable to conclude that when amending the Basin Plan the same considerations should be made." *Arcadia,* Statement of Decision, p. 13.

It may further be noted that State Water Resources Control Board Office of Chief Counsel has concluded that the Regional Board has an affirmative obligation to consider economics when adopting a TMDL. In particular, a memorandum prepared by Sheila K. Vassey of the Office of Chief Counsel (attached as Exhibit 4 to the Rutan & Tucker letter), it was concluded that the Regional Board must, in adopting a TMDL, determine what "methods of compliance are reasonably foreseeable to attain the allocations" and "what are the costs of these methods."

The analysis of economic impacts from the proposed Basin Plan amendment are insufficient. First, the cost estimates for constructing structural BMPs, such as infiltration trenches and sand filters, which themselves may underestimate the cost for design, installation and maintenance (the estimates do not, for example, appear to include the cost of permitting and obtaining other regulatory approvals), the estimates entirely neglect the cost of acquiring the land needed.

To illustrate this point, the Staff Report assumes one implementation scenario in which 20 % of the watershed would drain to infiltration trenches and 20% to sand filters. (Staff Report, p. 73). This amounts to 59,135 acres of watershed draining to each type of BMP, for a total of 118,270 acres. If one assumes, reasonably, that one percent of this area – 1183 acres – would be required for the BMPs, what is the cost of that land? This cost is not included in the Staff Report or the CEQA Checklist (discussed below). A rough estimate can be made, however. If one assumes that the median house price in Los Angeles County is approximately $400,000 and that there are 6.5 homes per acre, land acquisition costs would be approximately $3 billion.

While one may of course question these estimates, it cannot be argued that the Staff Report contains any attempt even to calculate the cost of land acquisition for BMPs.

Similarly, even though the potential for diversion/treatment BMPs is raised in the Staff Report, the report contains no estimate for the costs of such units.

## 9. Issues Regarding Compliance with California Environmental Quality Act

Regional Board staff has prepared a checklist which, according to the Interim Executive Officer, meets the requirements of a substitute environmental document under the California Environmental Quality Act ("CEQA"). We respectfully disagree with that conclusion. Moreover, we incorporate the comments of Rutan & Tucker on the CEQA compliance issues found in their comment letter, filed concurrently herewith.

It is significant that one of the chief implementation strategies considered in the Staff Report is the City of Los Angeles' Integrated Plan for the Wastewater Program, and specifically, the Integrated Resources Plan phase of the Program ("IRP"). Staff Report, p. 64. The City recently issued a Notice of Preparation of an Environmental Impact Report for the IRP. If this program, which Regional Board staff touts as a mechanism to achieve at least partial compliance with the TMDL, requires an EIR, how could the staff determine that there are feasible alternatives or feasible mitigation measures that would substantially lessen any significant adverse impacts of the entire TMDL, which encompasses a vaster area.

**a. Improper Segmenting of Project** – The Checklist notes, in several places, that a separate CEQA review process will likely be required. (E.g., see discussion of impacts on air emissions and water movements.) However, the Regional Board must analyze the entire "project;" it cannot avoid its CEQA responsibilities by deferring them to other agencies who will be legally bound (upon adoption of the TMDL and its incorporation into NPDES permits) to implement that project. The cases under CEQA are clear; an agency cannot split a "project" into segments and thus avoid discussing the environmental impacts of the split-off segments.

Moreover, the Checklist, in the discussion of deferring mitigation, staff has consistently assumed that there are, in fact, feasible mitigation measures for every potential adverse impact and has refused to acknowledge that some of the impacts may not be susceptible of any feasible mitigation. Future actions that will be required in order to carry out the TMDL may result in significant unavoidable impacts. A clear demonstration of this potential is the recognition by the City of Los Angeles that it must prepare an EIR for its IRP, the very program recognized by Regional Board staff as crucial to the implementation of the TMDL.

Through the use of improperly deferred mitigation measures, the Interim Executive Officer has impermissibly failed to disclose to the Regional Board that the proposed Basin Plan amendment may have a significant effect on the environment.

**b. Failure to Note and Evaluate Environmental Impacts** -- The Checklist fails on a number of counts adequately to note and evaluate the environmental impacts from the proposed Basin Plan amendment. We note that members of the regulated community provided voluminous comments on the potential and foreseeable impacts of implementation of the Basin Plan amendment, comments that were provided prior to the finalization of the Checklist. Unfortunately, many of these comments were ignored by staff.

In particular, we note comments submitted by Dr. Gerald Greene of the City of Downey, Eduard Schroder, P.E., of TECS Environmental and Kimberly Colbert of

Charles Abbott Associates, and a table that is found in those comments, detailing each environmental impact that, in the view of these individuals, would constitute a definite or possible significant environmental impact. We hereby incorporate those comments and that table as though set forth in full herein as a good overview of the deficiencies in the Checklist. (The comments and table may be found as Exhibit 16 to the Rutan & Tucker comment letter.) That table further notes that in a number of cases, environmental impacts that were characterized as having no or "maybe" significance will, in fact, be the subject of the EIR being prepared by the City of Los Angeles as part of the IRP.

**c. The Checklist Does Not Meet the Statutory Requirements for a Substitute Environmental Document** -- The Interim Executive Officer, in his Determination, found that while the proposed Basin Plan amendment "could have a significant adverse effect on the environment," there are "feasible alternative and/or feasible mitigation measures that would substantially lessen any significant adverse impact." The finding further states that such alternatives are discussed in the Checklist and in the Staff Report.

In fact, neither the Checklist nor the Staff Report provide any meaningful mitigation or alternatives, but merely vague assurances that have no empirical basis. For example, in discussing the potential impacts on soil displacement, while the Checklist concludes that potential adverse impacts could occur from increasing the rate at which water is discharged to the ground, "this potential adverse impact could be mitigated if structural BMPs are properly designed and sited in areas where risks to soil disruption are minimal." This "mitigation" is merely a pious hope that when TMDL implementation causes adverse environmental impacts, the implementing agencies will be careful. The Staff Report also does not provide any specific mitigation measures that could be adopted by dischargers.

CEQA requires more. While the Secretary of Resources has certified the basin planning process as exempt from certain requirements of CEQA, a certified regulatory program still must comply with CEQA's remaining policies and requirements. *Environmental Protection Information Center v. Johnson,* 170 Cal. App. 3d 604 (1985).

Importantly, the lead agency may not base a negative declaration or mitigated negative declaration on the presumed success of mitigation measures that have not been formulated at the time of project approval. In *Sundstrom v. County of Mendocino,* 202 Cal. App. 3d 296 (1988), the Court of Appeals overturned a negative declaration on the basis that the lead agency had assumed that other agencies would be able to devise means of avoiding potentially significant environmental impacts associated with soil stability, erosion and flooding. The Court of Appeals in *League for Protection of Oakland's etc. Historic Resources v. City of Oakland,* 52 Cal. App. 4th 896 (1997), similarly ordered that a mitigated negative declaration be set aside when the only mitigation measures for the

destruction of historic structures would be the inclusion of unspecified design elements in a modern shopping center to be built on the site. These are only two of a number of cases holding that a lead agency cannot evade the hard discussion of environmental impacts by deferring mitigation to another place and another time.

To pass muster under CEQA, the mitigation measures in the substitute environmental document must be real and they must be set forth in the environmental document prior to the adoption of the environmental document by the lead agency. *E.g., Quail Botanical Gardens Foundation, Inc. v. City of Encinitas,* 29 Cal. App. 4th 1597 (1994).

Neither the Checklist nor the Staff Report sets forth any specific mitigation measures for the identified and potential adverse environmental impacts in the Checklist. Given the ephemeral nature of the implementation "plan" (discussed above), this failing is not surprising.

Moreover, the Checklist and Staff Report do not discuss alternatives to the "project" represented by the TMDL, in direct violation of CEQA and the Regional Board's own regulations in Title 23 of the Code of Regulations.

## 10. Unfunded Mandates

Article XIII B, Section 6 of the California Constitution requires a state agency which mandates a new program or a higher level of service to provide a "subvention" of funds to reimburse local governments for the costs of the program or increased level of service. As noted in the Staff Report, the TMDL, when implemented, will require significant outlays of funds by local governments to design, install, construct and maintain both non-structural and structural BMPs. No funding mechanism has, however, been provided for the TMDL by the state. The TMDL also goes far beyond the specific requirements of the Clean Water Act or USEPA's regulations, and represents in fact a state program not a federal program. (In that regard, we note that the CTR criteria which form the basis for the TMDL numerical objectives, were adopted specifically as not creating a federal mandate on any state, local or tribal government, or on the private sector. *See* 65 Fed. Reg. 31682, 31708.

## 11. Comments Regarding Timing of Significant Milestones

As noted above, the Department has significant difficulties with the approach followed by the proposed Basin Plan amendment, the lack of evidence supporting the amendment and other more general deficiencies. In addition, we have the following comments on the timing of significant milestones:

**a. Coordinated Monitoring Plan** -- Table 7-13.2 of Attachment A provides only 120 days to prepare a coordinated monitoring plan for compliance

and ambient monitoring. We request that this be changed to provide for 300 days, or 10 months. Given our experience in establishing monitoring programs in other watersheds such as north Santa Monica Bay, which involve fewer municipalities and a less extensive watershed, it will take the MS4 permittees far longer to produce this plan that is afforded by the proposed Basin Plan amendment.

**b. Draft Implementation Plan** – The permittees are given only 12 months to produce a draft implementation plan. This is not enough time. The complexity of the TMDL and the watershed, the need to organize the cities and sanitation and water reclamation districts, and the length of time it takes to issue a cope of work, issue RFPs, interview consultants and draft agreements, all make the 12 month time frame far too short. It is unfortunate that Regional Board staff did not consult with the MS4 permittees and other regulated parties before imposing this requirement. We request that this schedule be expanded to 30 months.

**c. Final Implementation Plan –** We request that the final implementation plan be required 36 months, not 16 months, after adoption of the TMDL. As noted above, the size of the watershed, the need for coordination among a variety of cities and agencies, the complexity of the TMDL itself, the need to plan and design projects and the need to identify funding sources, all mandate that additional time be provided.

**d. Special Studies Timeline** – To the extent that the special studies will be conducted by the regulated community (an issue which requires a cost-benefit analysis under Water Code § 13267, which has not been done), we request that the studies be completed within five years of the effective date instead of four years.

**e. Reopener** – We request that the reopener be scheduled for five years, instead of six years, as this will coincide with the completion of the special studies.

**f. Compliance Timelines** -- For all of the reasons noted above, and also including the delays inherent in any project associated with environmental review and permitting, as well as finding funding, we believe that the first compliance deadline should be, at a minimum, 8 years after the effective date. We believe that the second compliance deadline should be 11 years after the effective date, that the third compliance deadline should be at 15 years after the effective date and that the final compliance deadline should be at 20 years. There is no discussion in the Staff Report as to why the compliance deadlines chosen in the proposed Basin Plan amendment are reasonable or are based on any realistic assessment of the tasks necessary to achieve TMDL compliance.